

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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1. The Leningrad Water Transport Engineering Institute (Leningradskiy Institut Inzhenerov Vodnogo Transporta - LIIVT), a subordinate agency of the Ministry of the River Fleet, was located in Leningrad at 5/7 Dinaburskaya Ulitsa. Until 1930 it had been called the Leningrad Communication Engineering Institute (Leningradskiy Institut Inzhenerov Putey Soobshcheniya-LIIPS) and was subordinate to the People's Commissariat of Communications (Narodnyy Kommissariat Putey Soobshcheniya). When this commissariat was divided (the newer half being called the People's Commissariat for Water Transport - Narodnyy Kommissariat Vodnogo Transporta), the institute was also split, forming the Leningrad Water Transport Engineering Institute and the Leningrad Railroad Engineering Institute (Leningradskiy Institut Inzhenerov Zheleznodorozhnogo Transporta-LIIZhT). The latter institute was located at 3 Mezhdunarodnyy Prospekt in Leningrad. In 1939, when the newer People's Commissariat for Water Transport (NarKomVod) was reorganized and broken into two separate commissariats (People's Commissariat of the Merchant Fleet and People's Commissariat of the River Fleet-NarKomMorFlot and NarKomRechFlot) the LIIVT, with the Gorkovskiy Water Transport Engineering Institute, was subordinated to the Commissariat of the River Fleet. A third, similar institute, the Odesskiy Water Transport Engineering Institute (OIIVT) was subordinated the same year to the People's Commissariat of the Merchant Fleet and renamed the Odessa Marine Engineering Institute (Odesskiy Institut Inzhenerov Morskogo Flota-OIIMF). After World War II, when the People's Commissariats of the Merchant and River Fleets were renamed the Ministries of the Merchant and River Fleets, there were some rumors that the LIIVT would be reorganized and subordinated to the Ministry of the Merchant Fleet. This did not happen; LIIVT remained under MinRechFlot.

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25 YEAR RE-REVIEW

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2. LIIVT was directly subordinate to the Central Directorate of Educational Institutions (Tsentral'noye Upravleniye Uchebnvkh Zavedeniy -- TsUUZ) of the Ministry of the River Fleet [redacted] 25X1
3. Director of LIIVT was (fnu) BRITVIN, a high Party member. [redacted] His Assistant Dean for Education was (fnu) NESTEROV, docent for the institute's Port Constructions chair. A listing of the faculty's various chairs follows:
 - a. Waterways and Ports (Vodnvkh Putev i Portov) -- (fnu) LYAKHNITSKIY, [redacted] 25X1
 - b. Hydraulics -- (fnu) MAKOVEYEV.
 - c. Internal Combustion Engines -- Engineer Vice Admiral (fnu) PONOMAREV, [redacted] 25X1
 - d. Auxiliary Engines -- Engineer Vice Admiral (fnu) SURVILLO, [redacted]
 - e. Steam Engines -- Aleksandr Konstantinovich STRIZH.
 - f. Boilers -- (fnu) DOIGOLENKO (who eventually died and was replaced by a Mrs. (fnu) MURINA).
 - g. Steam Turbines -- (fnu) AKIMOV, [redacted] 25X1
 - h. Technology of Metals and Ship Repair Proceedings (Tekhnologiya Metalov i Sudoremonta) -- Yuliy Petrovich BIRYUKOV.
 - i. Navigation and Pilotage (Navigatsiya i Lotsiya) -- (fnu) MANDEL'SHTAM.
 - j. Mathematics -- Roman Antonovich KHOLODETSKIY, [redacted] 25X1
[redacted] assistant was docent (fnu) GEBERT.
 - k. Physics -- (fnu) RYMKEVICH, [redacted]
 - l. Descriptive Geometry -- (fnu) PORYSHEV.
 - m. Expansion-Contraction of Materials and General Mechanics (Teoriya Mekhaniki i Soprotivleniya Materialov) -- (fnu) MITROPOL'SKIY, [redacted] 25X1
 - n. Thermo-Dynamics -- Docent (fnu) ARNOL'DOV.
 - o. Marxism-Leninism -- Docent (fnu) OGANOV.
 - p. MVD Section (Spetsotdel) -- (fnu) FEDOROV.
 - q. Administration Office -- Petr GALKIN

In general, professors and lecturers at the Institute were competent and the theoretical training given to students adequate; however, students generally lacked practical experience when graduated.

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4. LIIVT had the following faculties:

- a. Marine Engineering (Sudomekhanicheskiy)
- b. Mechanical (Mekhanizatorskiy)
- c. Hydro-technical (Vodnykh Putey i Portov, referred to sometimes as Gidrotekhnicheskiy)
- d. Management (Eksploatatsionnyy)
- e. Economics (Inzhenerno-Ekonomicheskii)
- f. Navigation (Sudovoditel'skiy)

Marine-Engineering Faculty

5. The marine-engineering course of this faculty lasted six years and was divided into 12 semesters, 11 of which were theoretical; the 12th was devoted to preparation of the graduation thesis. The faculty was composed of three chairs: Designing, Ship Repair, and Operation of Ship Machinery and Motors; the last chair was abolished in 1940. Students of this faculty, in addition to lectures and normal studies, had to attend four practical training courses, at the following times:

- a. After completion of the fourth semester. This training, requiring two months, was given in training shops (Uchebno-Proizvodstvennyye Masterskiye) of the Higher Navigation School in Leningrad.
- b. After completion of the sixth semester. This three months of training was conducted on steam-powered vessels, where students both apprenticed to, and performed the work of, stockers and mechanics (mashinist).
- c. After completion of the eighth semester. Students performed (for three months) the duties of engine operators aboard diesel ships.
- d. After completion of the 10th semester. This undergraduate practical training, lasting three months, was held in ship repair plants and on ships. After 1940 the sailing practice, however, was discontinued. In the ship repair yards students became familiar with the problems and technology of ship repair, starting with the moment a ship entered a yard until the time it left, fully overhauled. This last phase of practical training was conducted after the students were informed of the topics they would be expected to use for their graduation thesis; on the basis of this decision students were sent places where they could acquire the practical experience pertaining to their theses' topics.

6. In the Marine-Engineering Faculty special attention was paid to the following: ship steam boilers, ship steam engines, steam turbines, internal combustion engines, and ship auxiliary machinery. Stress was put on student familiarization with ship repair yards machinery, the technology of ship repair materials, and the organization of ship repair work. Considerable attention was devoted to the equipment of refrigerator ships.

7. Much time and effort was also spent on designing work; a large number of drafting and designing projects were given to students. Even during the first year students received an assignment to prepare a design of a shore loading crane and to submit all mathematical calculations for its construction. During the third year of studies, students were required

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to prepare designs of ships' steam boilers and steam engines. In the fourth year, students were asked to prepare designs of internal combustion engines, steam turbines, and ship propellers. The fifth year, students had to design a complete ship repair yard or ship repair shop. All designs must be accompanied with the practical mathematical calculations.

8. After graduation, students of this faculty received the diplomas of marine mechanical engineers and were employed as designers, shop supervisors, or ship mechanics in ship repair yards.

Mechanical (Mekhanizatorskiy) Faculty

9. This faculty's course, lasting six years (12 semesters) was divided into two chairs: designing and mechanical operation (konstruktorskiy i ekspluatatsionnyy). Stress was put on the study of conveyers, transporters (small transportable conveyers), cranes, hoists, port transportation facilities, warehouses, cold storage plants, railroad facilities, and ship mechanical devices and appliances.
10. Students of this faculty were given the following practical training. After completion of four semesters, students spent two months in the training shops of the Higher Navigation School in Leningrad; after six semesters, practical work was done in ports with ship loading and unloading equipment, i.e., cranes and hoists. After the eighth semester, students worked in ports on conveyers and transporters; and, after the tenth semester, students worked with all port facilities (each student concentrating on the subject of his diploma thesis). The second, third, and fourth training periods were of three months' duration; volunteers, however, were encouraged to stay even through the fourth month.
11. School designing projects were given which were similar to those given in the previously described faculty [see paragraph 7]; emphasis, however, was put on cranes, hoists, conveyers, and transporters. Normally the last designing project dealt with the organization of loading and unloading a particular type of cargo.
12. Graduates from this faculty received the diplomas of Port Mechanical Engineers (Inzhener Mekhanizator, or Inzhener po Portovym Mekhanizmam i Oborudovaniyu) and were immediately employed as engineers in ports and harbors.

Hydrotechnical Faculty

13. This faculty was composed of two chairs: Designing and Exploitation; each course lasted six years (12 semesters). Special attention was given to geodesy (large-scale surveying), familiarization with dredging machinery, the study of statics, organization of dredging work, construction of piers and quays, exploration of sea depths for the determination of canal routes and the adequate location of ports and harbors, landings, etc.), and hydraulics.
14. Practical training for this faculty's course consisted of the following:
 - a. After two semesters -- one month of large-scale surveying and map making.
 - b. After four semesters -- two months of practical hydrographic surveying.
 - c. After six semesters -- two months of practical training on dredging machines.
 - d. After the fourth year -- two months' practice in construction works in ports on hydrographical projects.
 - e. After the sixth year -- three months' practice in port on the construction of underwater facilities.

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15. Design projects for this course dealt mostly with dredging machinery, port hydrographical constructions, etc. Graduates received the diploma of Hydrotechnical Engineers (Inzhener po Gidrotekhnicheskim Ustanovkam i Sooruzheniyam, otherwise called Inzhener Gidrotekhnika).

Exploitation (Eksplotatsionnyy) Faculty

16. This faculty was sometimes referred to as the Organization of River Transport Faculty, since this was the main instruction given. The full course lasted 5 years, or 10 semesters. Stress was put on the organization and planning of various river transport cargoes, the organization of loading and unloading cargo in ports, exploitation of river vessel transport, economics of river transport (the general trend was to make all steamship companies self-supporting), study and analysis of fleet personnel working norms and loading and unloading working norms, and, finally, transport and port statistics. In addition to these main courses of instruction, students of this faculty received some basic knowledge in mechanics, navigation, etc.
17. The practical training of this faculty started after the completion of the sixth semester; students trained on river vessels for two months. The next year, they were sent to ship repair yards of steamship companies to become familiar with the operation of these agencies.
18. Diploma theses for this faculty usually concerned the organization of transporting a special cargo from one port to another, or the organization of loading and unloading cargo in a specific port.
19. Graduates of this faculty received the diplomas of Exploitation Engineers (Inzhener Eksplotatsionnik) and were given positions as dispatchers or, sometimes, heads of exploitation sections in steamship companies and ports.

Faculty of Economics (Inzhenerno-Ekonomicheskiy)

20. This faculty's five-year course was divided into 10 semesters. Stress was put on the commercialization of river fleet transports (ekonomika rechnogo transporta), the managerial level of river transport, efficiency, planning and organization of cargo and passenger transport, planning of activities of industrial enterprises (ship repair yards, ship repair shops, etc.), economic relations with other agencies and organizations of the MRF, economic relations with the MMF and Ministry of Railroads; the preparation of freight charts and tariff tables, as well as the study of Karl Marx's political economy.
21. There were no diploma theses required; instead, graduates had to pass a state examination. In general, this faculty was rather unpopular with students because of the dull and bureaucratic work expected of them after graduation.
22. Graduates of this faculty received the diplomas of Engineers of Economics (Diplomirovannyi Inzhener-Ekonomist) and were considered specialists in operational and prospective planning for MRF organizations; they were normally given positions as planning engineers with steamship companies, ports, and ship repair yards. Often they were immediately appointed as chiefs of labor and wage sections of these organizations.

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Navigation Faculty (Sudovoditel'skiy)

23. After 1930 this faculty was called the Exploitation-Navigation (Eksplotatsionno-Sudovoditel'skiy) Faculty and was divided into two branches: exploitation and navigation. In 1935 the navigational branch became independent. In 1942, due to the war, the navigation faculty of this institute was transferred to the Marine Engineering Institute in Odessa (OIIMF); it remained in Odessa until 1944, when it was finally abolished, and its task taken over by higher navigation schools, leaving both LIIVT and OIIMF without navigation faculties.
24. When the Navigation Faculty was with LIIVT its task was to train navigators for the Merchant Marine Ministry, not for the Ministry of the River Fleet (as might be assumed, since LIIVT was under the Ministry of the River Fleet). Navigators for the River Fleet Ministry were taught at river navigation schools, which were organized similarly to marine navigation schools.
25. The full course of the Navigation Faculty lasted six years and was divided into 12 semesters. Stress was put on studying the hydro-graphical characteristics of various seas (lotsiya morey), spherical trigonometry, astronomy, meteorology, and architectural designing of vessels.
26. Practical training was as follows:
 - a. After the first year -- two months on sailboats.
 - b. After the second and third years -- two months as sailors on coastal and overseas steamship lines.
 - c. After the fourth year -- two months in navigation equipment and instrument shops.
 - d. After the fifth year -- three months' experience as navigational trainees on transoceanic ships.
27. Diploma theses were not required by this faculty; graduates had to pass state examinations before an examining board composed of several professors of LIIVT and other educational institutions of the River Fleet Ministry. Prior to World War II, graduates of this faculty received the diploma of Navigator with Higher Diploma (Sudovoditel s Vysshim Diplomom). Eventually, this title was abolished and replaced by the term Engineer-Navigator. Regardless of how this title was printed on the diploma, in practice, the title for this type of navigator, whether a graduate of LIIVT or of some higher navigation school, was Coastal Shipping Navigator (Shturman Malogo Plavaniya); however, graduates bearing this title were required to train as sailors on vessels for 24 months (their sailing training in the institute was counted double and subtracted from this period). Practically, this meant that for more than 1 1/2 years, graduates were considered as navigator trainees. To earn the title of Navigator, Overseas Lines, required practical training of 18 months as a first officer on an overseas line.
28. The LIIVT was equipped with the following laboratories:
 - a. Thermodynamics laboratory. In this laboratory research was done on various fuels and a study made of the thermal processes which developed in ships' engines.
 - b. Metallography laboratory. Here was equipment for testing the hardness of metals (devices of Poldi, Brinell, Rockwell). In addition there were several machines for processing various metals, and several electric stoves (termoaparaty).

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- c. Testing laboratory for the strength of metals -- equipped with various machines for testing the torsional, tearing, bursting, crushing, tensile, compressive, and impact strength of metals and machines and devices for registering the rupture, corrosion, load, tear, breaking, and frictional resistance of metals.
 - d. Mechanical laboratory -- equipped with models of port loading and unloading equipment. There was also a complete model of Leningrad Port, which was used for studies.
 - e. Hydrotechnical laboratory (Vodnykh Putey i Portov) -- provided with various models of hydro-technical constructions, samples of materials used in hydrographical constructions, and geodesical equipment.
 - f. Laboratory for Hydraulic Studies -- provided with equipment for experiments with various liquids.
 - g. Marine Engineering Laboratory -- equipped with operating models of steam and diesel ship engines and the models of various ship auxiliary machinery and parts.
 - h. Navigation (Navigatsionno-Shturmanskaya Laboratory) -- well equipped with all kinds of navigation equipment, i.e., logs, sea gauges, gyrocompasses, chronometers, sea maps, etc.
 - i. Laboratory for Descriptive Geometry -- equipped with models of the various parts of machinery, descriptive geometry, illustrative models, samples, and drawings.
 - j. Physics laboratory
 - k. Chemistry laboratory
- } Well-equipped laboratories with the normal equipment serving general educational purposes.

In addition to these laboratories, there was an excellent library with all necessary technical reference books.

- 29. Students of the Marine Engineering Faculty also used the laboratory of the Central Scientific Research Institute of the River Fleet -- TsNIIRF, located at 7 Gapsal'skaya Ulitsa on the corner formed by this street and Dinaburgskaya Ulitsa. The laboratory was equipped with normal size operating machinery, i.e., boilers, steam engines, diesel motors, and auxiliary ship machinery.
- 30. Admission to LIIVT required the student to be 18 to 35 years old and to have had 10 years of education. The annual enrollment was 420-430 students. Students received allowances as follows: first year -- 140 rubles; second -- 160; third -- 180; fourth -- 200; fifth and sixth -- 225. The LIIVT was provided with a dispensary, dental clinic, mess for students (where an average meal cost approximately 3½ rubles), and three dormitories. Each room in the dormitory was shared by 5 to 10 students who paid the LIIVT 10-15 rubles per month. Students were encouraged to wear a merchant marine uniform but had to buy it at their own expense. After World War II the wearing of a uniform was obligatory and still at the student's expense.
- 31. Until 1940, 25% of the students normally failed to graduate, due to poor examination results. In 1940 about 50% of the students left LIIVT, either because of financial difficulties or failure at their examination. After World War II, when only wealthy or state-sponsored students were admitted to LIIVT, the percentage of students who left the institute became considerably lower, due to the wealthier students' parents, who helped students remain in school. The influence of the wealthier parents was also of great aid to students who might otherwise have been forced to leave the institute because of low examination grades.

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